



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,281	03/26/2004	Gerald Duane Larue	H0006214	2263
7590	08/03/2005			EXAMINER
Ephraim Starr, General Counsel, Turbo Division Honeywell International Inc. Suite #200 23326 Hawthorne Boulevard Torrance, CA 90505			TRIEU, THAI BA	
			ART UNIT	PAPER NUMBER
			3748	
DATE MAILED: 08/03/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/812,281	LARUE ET AL.	
	Examiner	Art Unit	
	Thai-Ba Trieu	3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 20 June 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 1-23 and 26-28 is/are allowed.
- 6) Claim(s) 25 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application (PTO-152)
 6) Other: _____

DETAILED ACTION

This Office Action is in response to the Amendment filed on June 20, 2005. Applicant's cooperation in amending the claims to overcome the claim objections relating to informalities is appreciated. Claims 1-7, 13-, 15, 17-20, and 22-23 were amended; and claim 24 was cancelled.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 25 is rejected under 35 U.S.C. 103(c) as being unpatentable over Ghizawi (Patent Number 6,668,553 B1), in view of Emerson et al. (Patent Number 5,529,464).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed

in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Ghizawi discloses a turbocharger (10) comprising:

a compressor (14) comprising a compressor housing (Not Numbered) and a compressor wheel (Not Numbered) mounted in the compressor housing (See Figure 1);

a turbine (12) comprising a turbine housing (Not Numbered) and a turbine wheel mounted (Not Numbered) in the turbine housing (See Figure 1);

a shaft (16) connecting the compressor wheel to the turbine wheel (See Figure 1);

a center housing disposed between and mounted to the compressor and turbine housings (See Figure 4), the center housing defining a bore that receives the shaft therethrough (See Figure 4);

a bearing assembly (18) mounted in the bore of the center housing rotatably supporting the shaft (16), wherein the center housing defines a cooling

air supply passage (via 52, 54) leading into the bore for supplying cooling air to the bearing assembly (18), and cooling air discharge passages arranged to receive said cooling air after said cooling air has cooled the bearing assembly (See Figure 1);

a cooling air supply line (52, 54) coupled to the cooling air supply passage of the center house (See Figure 1); and

a filter (24) arranged in the cooling air supply line for removing oil vapor from the cooling air before cooling air is supplied to cool the bearing assembly (18).

However, Ghizawi fails to disclose a bearing assembly being a hydrodynamic foil bearing assembly.

Emerson teaches that it is conventional in the turbopump art, to utilize a hydrodynamic foil bearing assembly (88, 114, 34, 112A, 112B) (See Figures 1-2, Column 4, lines 1-18);

It would have been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized hydrodynamic foil bearing assembly, as taught by Emerson, to improve the efficiency and reliability of the Ghizawi cooling system for a turbocharger.

Allowable Subject Matter

Claims 1-12, 13-15, 16-19, 20-23, and 26-28 are allowed.

The following is an examiner's statement of reasons for allowance: None of the cited prior art alone or in combination teaches the claimed combination of a turbocharger having a hydrodynamic foil bearing assembly with a foil thrust bearing assembly and a pair of foil journal bearings including:

" Regarding claim 1:

(See Office Action mailed on 03/18/2005).

Regarding claim 13:

(See Office Action mailed on 03/18/2005).

Regarding claim 16:

the bearing cartridge is inserted as a unit into the bore of the center housing from one end of the center housing adjacent the compressor.

Regarding claim 20:

(See Office Action mailed on 03/18/2005).

Regarding claim 26:

(See Office Action mailed on 03/18/2005).

Regarding claim 28:

foil bearings are prevented from stalling and stopping at the engine idle conditions by partially closing the variable nozzle to increase the idle speed of the turbocharger."

Response to Arguments

Applicant's arguments filed June 20, 2005 have been fully considered but they are not persuasive. Accordingly, claims 1-23, and 25-28 are pending.

1. Applicant's arguments, see pages 9-10, filed on June 20, 2005, with respect to the rejection(s)of claim(s) 28 under 35 U.S.C. 102(b) as being anticipated by Thomson et al. (Patent Number 5,014,518) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn.

2. Applicant's arguments, see page 10, filed on June 20, 2005, with respect to the rejection(s)of claim(s) 16 under 35 U.S.C. 103(a) as being unpatentable over Schinnerer et al. (Patent Number 3,740,163), in view of Emerson et al. (Patent Number 5,529,464) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn.

3. With regard to the Applicants' argument set forth on Page 10 and with respect to the rejection(s)of claim(s) 25 under 35 U.S.C. 103(a) as being unpatentable over Ghizawi (Patent Number 6,668,553 B1), in view of Emerson et al. (Patent Number 5,529,464), applicants state that "there is no filter downstream of the compressor for removing oil vapor from the air bled off through the bleed port 34 and subsequently supplied to the turbocharger for cooling the bearing" in the modified Ghizawi device.

The examiner respectfully disagrees with the applicants since the features upon which applicant relies (i.e., no filter downstream of the compressor for removing oil

vapor from the air bled off...) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai-Ba Trieu whose telephone number is (571) 272-4867. The examiner can normally be reached on Monday - Thursday (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on (571) 272-4859. The fax phone

number for the organization where this application or proceeding is assigned is 703-872-9306.

Additionally, the new Central FAX Number **(571) 273-8300** is effective on **July 15, 2005**. The old number (703-872-9306) will be routed to the new number until September 15, 2005.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



TTB
July 22, 2005

Thai-Ba Trieu
Primary Examiner
Art Unit 3748